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(54) Title: **IMPLEMENTATION SYSTEM FOR CONTINUOUS WELDING, METHOD, AND PRODUCTS FOR IMPLEMENTATION OF THE SYSTEM AND/OR METHOD**

(57) Abstract: Various methods, systems and products are disclosed for providing an improved welding system which substantially improves the continuous operation of an automated welding system by increasing the amount of time between maintenance shutdowns. One of the disclosed method steps or system elements provides for dipping a welding nozzle [28 or 28a] and a portion of its related diffuser into a bath [12 or 12a] of fluid each time the automated welding system moves through a welding cycle. A product is also disclosed to best accomplish that step or element. Another method step or system element may include the removal of spatter accumulation via an electromagnetic field that magnetically pulls the spatter without direct contact with the nozzle or diffuser. A further disclosed method step or system element may include lubrication of the continuous electrode used for welding, and may also include a step or element prior to lubrication that involves cleaning the continuous electrode prior to adding lubricant. The steps or elements may vary as to whether or not they are included, or in what sequence. In each combination of method steps or system elements disclosed, however, a significant increase in time of continuous operation between maintenance shutdowns has occurred. A product is also disclosed that will hold various products as needed for the implementation of each disclosed system or method.

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**IMPLEMENTATION SYSTEM FOR CONTINUOUS WELDING, METHOD,
AND PRODUCTS FOR IMPLEMENTATION OF THE SYSTEM AND/OR
METHOD**

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BACKGROUND OF THE INVENTION

1) The subject invention relates to systems and/or methods of use for significantly increasing the amount of time between maintenance shutdowns in an automatic continuous welding application for an automated welding machine. Also disclosed are products which can be used to accomplish some of the steps of the processes or systems disclosed.

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2) DESCRIPTION OF THE PRIOR ART

In the industry, various welding systems and processes are employed to weld two pieces of metallic material. Typically, a diffusion nozzle (or nozzles in the case of twin electrodes) of a continuous electrode is moved near an article or articles to be welded, and an arc is established between the continuous electrode and the article or articles to be welded, so as to raise the temperature of the article or articles to be welded to the point at which the parts locally melt. Throughout the welding process an inert gas is dispensed through a gas diffuser disposed adjacent the nozzle to keep the molten metal at the weld engulfed in a controlled atmosphere. The controlled atmosphere controls the characteristics of the weld deposit as well as excluding air. The three gases that cause the most difficulty in welding are oxygen, nitrogen, and

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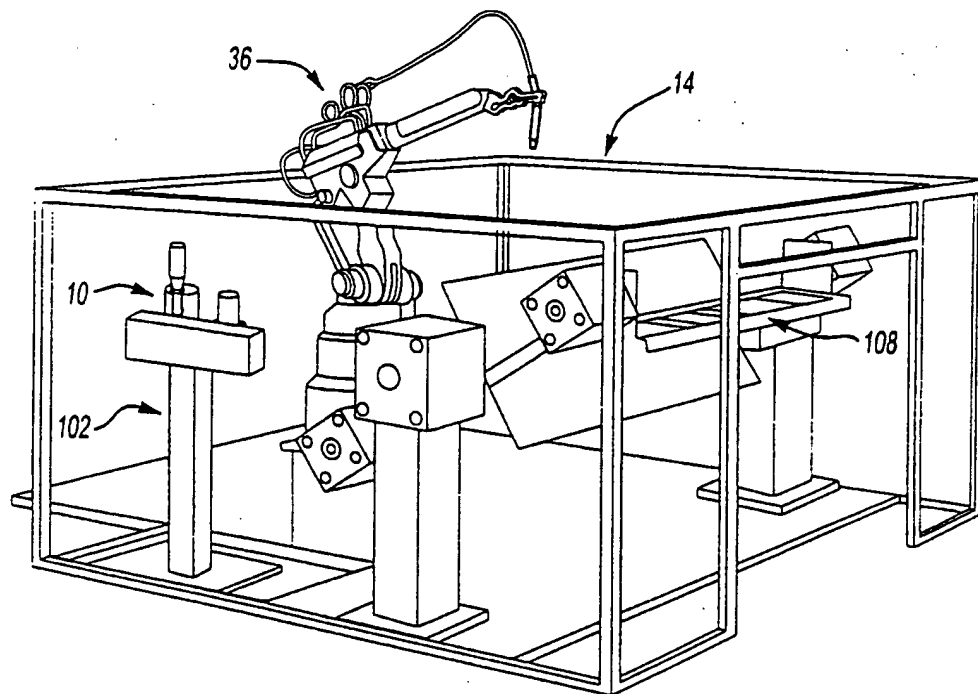
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CLAIMS

What is claimed is:

1. An apparatus for providing a bath of a fluid to an automated welding
5 system,
said apparatus providing a port for the adaptation of a feed container,
said apparatus including a reservoir which is accessible to atmosphere,
said apparatus further including a passageway for communication between
said feed container and said reservoir,
10 said apparatus further including means for maintaining said fluid bath at a
constant level within said reservoir until said feed container is exhausted.
2. The apparatus as described in claim 1, wherein said apparatus provides a
balance between the surface tension of said fluid within said reservoir and in contact
with the atmosphere against the head created by said feed container in
15 communication with said passageway.

Fig-1